

WHAT IS CLAIMED IS:

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1. A decoding method of decoding multiplex data using the Viterbi decoding method, which multiplex data are composed by multiplexing a plurality of data stream in time division, which
5 data streams are coded by at least convolution code and whose coding rates and modulation systems are set respectively, the decoding method comprising the steps of:

measuring the strength of the noise contained in the multiplex data;

10 checking whether the measured noise strength is equal to or greater than a predetermined value; and

when the measured noise strength is equal to or greater than the predetermined value, initializing the path metric calculated based on the Viterbi decoding method at a timing at
15 which the decoding of individual data streams is started.

2. The decoding method according to claim 1, wherein when the coding rate of the data stream to be decoded is larger than a coding rate of the data stream which has just been decoded,
20 only then the path metric is initialized.

3. A data receiving system comprising:

a Viterbi decoder which decodes multiplex data composed by multiplexing a plurality of data stream in time division,
25 which data streams are coded by at least convolution code and whose coding rates and modulation systems are set respectively;

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a signal-to-noise ratio monitor which measures the strength of the noise included in the multiplex data;

a comparison unit which checks whether the measured noise strength is equal to or greater than a predetermined value and
5 outputs a notification signal when the measured noise strength is equal to or greater than the predetermined value; and

an initialization signal generation unit which outputs an initialization signal which initializes the path metric calculated in said Viterbi decoder at a timing at which the
10 decoding of individual data streams is started when receiving the notification signal.

4. The data receiving system according to claim 3 further comprising a signal selection unit which,

15 receives the initialization signal,

checks whether a code rate of the data stream to be decoded is larger than a coding rate of the data stream which has just been decoded, and

provides the initialization signal to said Viterbi
20 decoder when the code rate of the data stream to be decoded is larger than the coding rate of the data stream which has just been decoded.

5. The data receiving system according to claim 3 further
25 comprising a distribution unit which distributes the multiplex data after the multiplex data are decoded and outputs the

distributed data.

6. The data receiving system according to claim 3 further comprising a multiplex information decoding unit which extracts multiplex information from multiplex data so as to decode the multiplex information when the multiplex data has multiplex information as an added information.

7. The data receiving system according to claim 3, wherein said predetermined value is variable.

8. The data receiving system according to claim 3, wherein said data stream is BPSK, QPSK or 8PSK.

9. A decoder comprising:

a Viterbi decoder which decodes multiplex data composed by multiplexing a plurality of data stream in time division, which data streams are coded by at least convolution code and whose coding rates and modulation systems are set respectively;

a signal-to-noise ratio monitor which measures the strength of the noise included in the multiplex data;

a comparison unit which checks whether the measured noise strength is equal to or greater than a predetermined value and outputs a notification signal when the measured noise strength is equal to or greater than the predetermined value; and

an initialization signal generation unit which outputs

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an initialization signal which initializes the path metric calculated in said Viterbi decoder at a timing at which the decoding of individual data streams is started when receiving the notification signal.

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10. A data transmitting and receiving system comprising:
a transmitting unit which transmits a time division multiplexing data including a plurality of data stream; and
a receiving unit which receives and decodes the time division multiplexing data,

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said receiving unit comprising,
a Viterbi decoder which decodes said time division multiplexing data;

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a signal-to-noise ratio monitor which detects the noise in the time division multiplexing data; and

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an initialization signal generating unit which outputs a initialization signal to said Viterbi decoder on the basis of the detected noise so as to initialize the path metric calculated by said Viterbi decoder at a timing when decoding of each of said plurality of data stream is started.

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11. The data transmitting and receiving system according to claim 10, wherein the initialization signal is outputted to said Viterbi decoder when the coding rate of the data stream to be decoded is larger than that of the data stream decoded before.